

REMARKS

With the present Amendment, the limitations of claim 22 have been placed in claim 20, and claim 22 has been cancelled. Claim 23 has been amended to depend from claim 21 instead of claim 22. Otherwise, the claims remain unchanged.

Claims 1-16, 18, 20-23, and 25 were rejected as either being anticipated by Braden-Harder et al. (U.S. patent number 5,933,822, hereinafter Braden-Harder), or as being obvious from Braden-Harder in view of one or more of Kanoh et al. (U.S. patent number 5,873,077, hereinafter Kanoh), Messerly et al. (U.S. patent number 6,076,051, hereinafter Messerly), and Hoppe et al. (U.S. patent number 5,515,488, hereinafter Hoppe).

In the present application, there are three independent claims: claims 1, 13, and 20. With the amendment to claim 20, each of these independent claims includes a limitation to generating a compound logical form query from a user query, where the compound logical form query has at least two logical form triples connected by a restrictive operator. None of the cited references, either alone or in combination, show or suggest forming a compound logical form query by connecting at least two logical form triples with a restrictive operator.

In the Office Action, it was asserted that column 14, lines 30-37 of Braden-Harder showed the generation of such a compound logical form with a restrictive operator. Applicants respectfully dispute this assertion.

In the cited section, Braden-Harder discusses the creation of individual logical forms. In particular, it discusses producing multiple logical form triples for an individual sentence by creating a separate logical form triple for each referent referred to by a constituent. For example, in the sentence "The octopus has three hearts and it can swim", a logical form triple is formed for both the "octopus" referent to "swim" and the "it" referent to "swim", resulting in a logical

form triple of "swim-DSUB-octopus" and a logical form triple "swim-DSUB-it". This section makes no reference to combining multiple logical forms to form a compound logical form by connecting at least two logical form triples with a restrictive operator.

In fact, Braden-Harder makes it quite clear that its logical form triples are never connected together with a restrictive operator such as "AND" or "NEAR". Instead, the logical form triples are always connected together with an "OR" operator.

This can be seen in column 7, lines 55-59 where Braden-Harder makes it clear that it searches for any match between any logical form in the query set, i.e. the logical form triples in the query set, and any logical form for a document. Thus, Braden-Harder does not place a requirement that multiple logical form triples must be found within a single document. Instead, it searches for any document that contains at least one logical form. As such, it is quite clear that Braden-Harder does not use a restrictive operator to connect at least two logical form triples to form a compound logical form query.

Similarly, none of the other cited references show or suggest combining two logical form triples with a restrictive operator to form a compound logical form query.

Further, it is not clear that a restrictive operator could be used in the Braden-Harder method without destroying the scoring system used to rank results in Braden-Harder. In particular, it is possible that using a restrictive operator would cause a document to be pruned that would have received a high score in the Braden-Harder ranking system. As such, those skilled in the art would not be motivated to use a restrictive operator with the Braden-Harder system, since it might disrupt the scoring system adopted by Braden-Harder.

Since each of claims 1, 13, and 20 include a limitation to forming a compound logical form query by connecting at least two logical form triples with a restrictive operator, and this limitation is not shown or suggested in the combination of references cited by the Examiner, each of the independent claims, and the dependent claims which depend therefrom, are patentable over the cited art.

Claims 4-11

Claims 4-11 depend from claim 1 with claims 5-11 each depending from claim 4. In claim 4, the method of generating a compound logical form query further includes determining a score for each logical form triple, combining the scores to form a total score, and generating the compound logical form query based in part on the total score. Claims 4-11 are further patentable over the cited references, because none of the cited references show or suggest generating a total score for logical form triples and using the total score to generate a compound logical form query.

In the Office Action, it was asserted that Braden-Harder showed the step of generating a logical form query based in part on a total score for logical form triples at column 18, lines 55-58. Applicants respectfully dispute this assertion.

At the cited section in Braden-Harder, it is stated that: "The client PC also analyzes the query to produce its corresponding set of logical form triples. The server host, e.g., a conventional statistical search engine and consequently, in response to the query, undertakes statistical retrieval to yield the set of document records." There is no reference to generating a compound logical form query based in part on a total score for logical form triples. In fact, there is no mention of scoring individual logical form triples.

Similarly, none of the other cited references show or suggest a step of generating a logical form query based in part

on a total score for a set of logical form triples. As such, claim 4 and claims 5-11, which depend therefrom, are additionally patentable over the cited references.

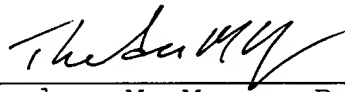
Conclusion

In light of the above remarks, claims 1-21 and 23-26 are patentable over the cited references. Reconsideration and allowance of the claims is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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